



*Launch
Services
Program
presents...*

JUNO

Juno is scheduled to be launched in August 2011 aboard an Atlas V-551 rocket from Cape Canaveral Air Force Station, Florida.

Juno, led by principal investigator Dr. Scott Bolton of Southwest Research Institute, is part of NASA's New Frontiers Program. The mission's primary goal is to improve our understanding of the formation, evolution and structure of the planet Jupiter. Jupiter must have formed with the sun at the very beginning of our solar system, before the rest of the planets. It contains more than twice the mass of the other planets combined, and its development had a major influence on the evolution of the rest of the bodies that orbit our sun. Juno will provide hints about how, where, and under what conditions Jupiter formed as the mission measures the amount of water (and with it, oxygen) in the planet's atmosphere and searches for a dense planetary core. Juno's revelations about Jupiter's history will also help us understand the origin of planetary systems around other stars. About two years after launch, Juno returns to Earth for a gravity assist flyby that gives the spacecraft the huge boost it needs to coast all the way out to Jupiter. In July 2016, the solar powered spacecraft will reach Jupiter and enter a highly elliptical orbit around the planet's poles that brings the spacecraft as close as 3,100 miles (5,000 kilometers) above the planet's cloud tops. With its suite of nine instruments, Juno will investigate the existence of a solid planetary core, map Jupiter's intense magnetic field, measure the amount of water and ammonia in the deep atmosphere, and explore the planet's auroras.

The launch of the Juno mission in 2011 begins a five-year journey back to Jupiter, to investigate these and other exciting mysteries of the mysterious gas giant.

Launch Vehicle: Atlas V-551

Launch Location: Cape Canaveral Air Force Station, FL

Launch Date: August 2011



JUNO

The Juno spacecraft is scheduled to launch aboard an Atlas V-551 rocket from Cape Canaveral, Florida, in 2011 reaching Jupiter in 2016. The spacecraft will orbit Jupiter 32 times, skimming to within 3,100 miles (5,000 kilometers) above the planet's cloud tops at closest approach, for approximately one year. Juno will launch on an Atlas V first stage with five solid rocket motors and a Centaur second stage, which fires twice to put the spacecraft on its post launch orbit around the sun.

Juno's scientific payload includes a gravity/radio science system, a six wavelength microwave radiometer for atmospheric sounding and composition, a vector magnetometer, plasma and energetic particle detectors, a radio/plasma wave experiment, an ultraviolet imager/spectrometer, and an infrared imager/spectrometer. The spacecraft will also carry a camera to provide the public with the first detailed glimpse of Jupiter's poles and visible color images of the cloud tops.

The Atlas V-551 launch vehicle extends the capability of the Atlas V with the addition of a 5-meter diameter payload fairing and five solid rocket boosters. All solid rocket boosters are ignited at liftoff. Booster engine cutoff occurs just over 4 1/2 minutes into flight and is followed by separation of Centaur from Atlas. The payload fairing is jettisoned during the booster operation, approximately 210 seconds into the flight.

Drawing Courtesy of United Launch Alliance



Juno's Science Instruments

Gravity Science & Magnetometers:

Study Jupiter's deep structure by mapping the planet's gravity field and magnetic field

Microwave Radiometer (MWR):

Probe Jupiter's deep atmosphere and measure how much water (and hence oxygen) is there

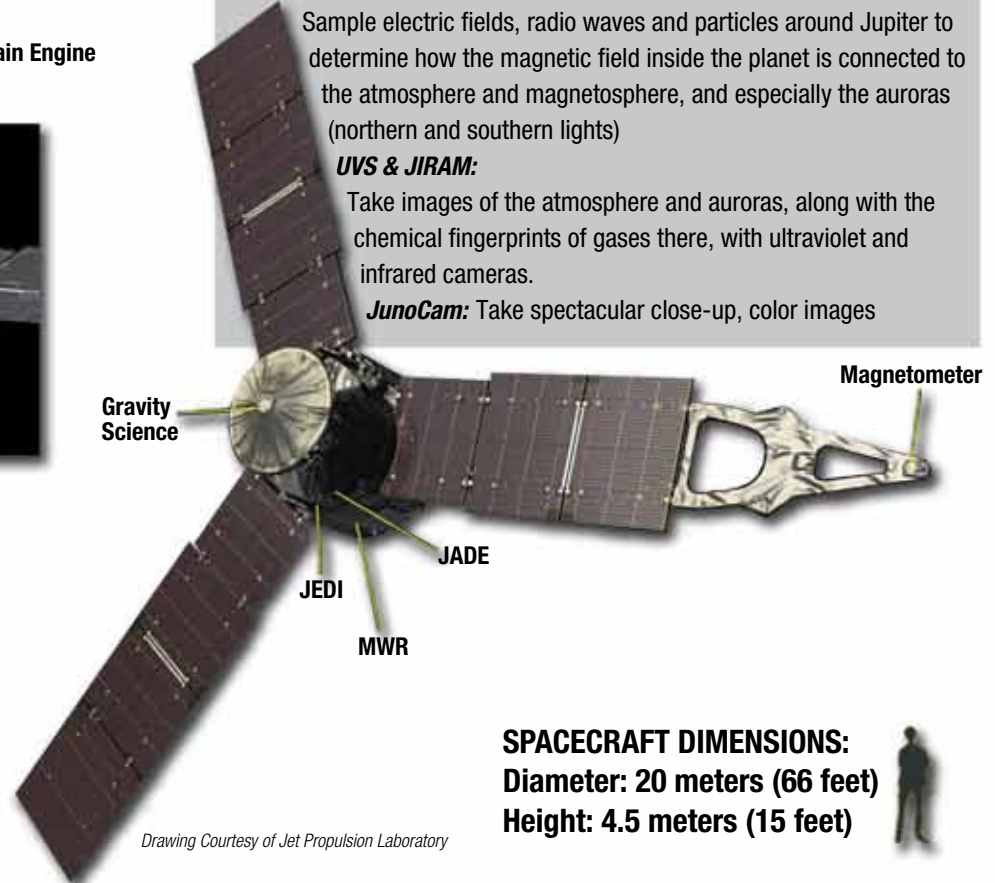
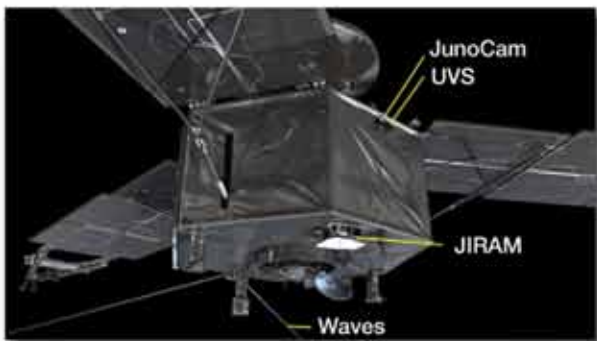
JEDI, JADE & Waves:

Sample electric fields, radio waves and particles around Jupiter to determine how the magnetic field inside the planet is connected to the atmosphere and magnetosphere, and especially the auroras (northern and southern lights)

UVS & JIRAM:

Take images of the atmosphere and auroras, along with the chemical fingerprints of gases there, with ultraviolet and infrared cameras.

JunoCam: Take spectacular close-up, color images



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SPACECRAFT DIMENSIONS:
Diameter: 20 meters (66 feet)
Height: 4.5 meters (15 feet)



Drawing Courtesy of Jet Propulsion Laboratory